

# PATENT SPECIFICATION



Application Date: Dec. 3, 1931. No. 33,469/31.

**384,787**

" " Jan. 9, 1932. No. 669/32.

Complete Left: Sept. 2, 1932.

Complete Accepted: Dec. 15, 1932.

## PROVISIONAL SPECIFICATION.

No. 33,469, A.D. 1931.

### Improvements in or connected with Reels for Fire Hose and such like.

We, KNOWSLEY CAST METAL COMPANY LIMITED, a British Company, of 24 to 32, Lower Moss Lane, Hulme, Manchester, in the County of Lancaster, and FRANK MUNDALL, a British Subject, of the same address, do hereby declare the nature of this invention to be as follows:—

This invention relates to improvements in and connected with reels for fire hose and such like.

The improvements are applicable to turntable reels, swinging turntable reels, or reels with stationary supports.

The important feature is, the construction of the reel itself and the manner of supplying water thereto through a hollow arm or tube of the revolvable structure which supports the reel.

The reel structure is built up of tubes, with tubular spokes, the outer ends of the latter being attached to each peripheral tube by bored T pieces. The inner ends of the tubular spokes are fixed in sockets formed on the exterior of cylindrical bosses which are rotatable upon trunnion-like bearings held in the arms of a "U" shaped support capable of swivelling.

One of the tubular spokes provides a water-passage way leading to a nozzle or union which is off-set, and this nozzle or union of short length is preferably shaped or curved to be concentric with and to lie close to a sheet metal or other strong drum upon which the hose is coiled. This sheet metal drum can be affixed to lugs arranged on the tube-like spokes of the two spaced circular reel structures, the sheet metal drum forming the spacing device between the wheel like members of said reel structure. Additional lateral stays may be provided.

The swivelling support for the reel structure can be of "U" shape and made from tubes, one tube or arm providing a water passage way. The other or blank tube or arm has a bracket, a bearing, or pedestal, or equivalent means to receive

and hold a blank trunnion for one of the cylindrical bosses of the wheel-like structure to turn upon. This cylindrical boss need not be packed as water does not pass that way.

At the other or non-blank end, the upper end of the tubular arm of the swivel support for the reel is fashioned to receive a combined spigot and trunnion-like structure which fits the other cylindrical boss of the reel structure, its outer end being held in the outer extremity of the hollow arm of the "U" shaped swivelling support. The combined spigot and trunnion-like support is cored out or cut with channels or has holes or passage ways for water passing up the hollow arm to find its way into the tubular spoke of the reel and so to the coiled-on hose.

A gland or glands or other provision may be provided to provide for packing of the combined spigot and trunnion-like support.

Said combined spigot and trunnion-like support may itself be clamped down and carry itself, or be provided with, a packing to make a joint with the upper end of the hollow arm of the swivelling "U" support, and any other additional gland or glands or contrivance can be provided in such case.

The reel described, turns on two trunnion ends (one hollow or with passage ways) and supported by the tubular arms of the swivelling "U" support, one arm being hollow and capable of conducting water to the tubular spoke of the reel, and so to the hose connected to nozzle or union and coiled on the drum of the reel.

The swivelling "U" support can turn upon a pillar or centre support which is hollow and provided with ports for water to reach the hollow arm of the swivelling "U" support, and so on to the tubular spoke of the reel. The boss of the swivelling "U" support is suitably packed above and below, by packing and glands, or in other way, and, in fixed support

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examples, the water is conducted to the pillar or hollow centre.

In the wall-bracket type of swivelling reel, we should make use of an affixable wall bracket having an integral or applied bored or hollow pillar or centre, and there would be a bent water pipe combined with the wall bracket (if necessary partly located in a concavity) and leading to the bored or hollow pillar or centre, a valve being provided to control the passage of water to the bent water pipe mentioned. Such a combination provides a very simple and compact contrivance, the water (when the valve is opened) finding its way to the hollow pillar or centre, then through the hollow arm of

the swivelling "U" support, and along the tubular spoke of the reel to the attached length of hose stored on the reel.

The support bracket may be pivoted upon another wall bracket, to allow the support bracket to swivel for turning said support bracket and the sustained reel, etc., into a position to lie very closely to a wall, the use of two brackets for such purpose being known.

Dated the 2nd day of December, 1931.

For the Applicants,

E. K. DUTTON & Co.,  
Chartered Patent Agents,  
5, John Dalton Street, Manchester.

### PROVISIONAL SPECIFICATION.

No. 669, A.D. 1932.

### Improvements in or connected with Reels for Fire Hose and such like.

We, KNOWSLEY CAST METAL COMPANY LIMITED, a British Company, of 24 to 32, Lower Moss Lane, Hulme, Manchester, in the County of Lancaster, and FRANK MUNDELL, a British Subject, of the same address, do hereby declare the nature of this invention to be as follows:—

These improvements are cognate with or modifications upon the invention described in our Provisional Specification No. 33,469 of 3rd December 1931.

In producing the reel structure, instead of using bored T pieces, we may attach the tubular spokes to the peripheral tubes by inserting the ends in apertures and thereafter fixing the same by welding, brazing or hard soldering.

We also propose to modify the way of movably sustaining the swivelling "U" shaped support for the reel structure, the intention now being to carry the swivelling boss of the "U" shaped support upon the end of the water supply pipe.

Such water supply pipe or an upper fitting applied thereto is properly shaped or bent and may have an inclined length which fits into a slightly concave recess in an inclined or other limb or bar of a main support bracket, said bracket being adapted to be fixed to a wall or pivoted to another bracket if the main support bracket is to fold to a wall as known. Such water pipe has a vertical extremity, and this vertical extremity is passed through a vertical hole bored in the outer end of said main support bracket, and the said water pipe may be gripped or held by studs or other holding means applied through the wall of the said outer end of

the main support bracket.

The upstanding length of said water pipe projecting above the bored extremity of said main support bracket forms the fixed pivotal pillar upon which the "U" shaped support swivels. The upper end of the pipe may be closed, and there are lateral holes cut in the upper portion of the pipe for water to pass through.

The lower boss-like part of the "U" shaped swivelling support is bored to fit upon the length of pipe which stands above the main support bracket, and there is passage way to the hollow arm of the "U" shaped swivelling support for the reel.

The boss-like part of the "U" shaped swivelling support for the reel is fashioned top and bottom to receive a gland and packing to pack the boss of the "U" shaped swivelling support about the upstanding end of the water pipe, and a screwed cap can be applied to the upper extremity at the closed end of the upstanding water pipe to give a finish and confine the "U" shaped swivelling support.

A ball or other bearing may be provided below the lower gland.

A water control valve would be fitted in connection with the water supply pipe, and if the main support bracket has to swivel upon another bracket, a flexible pipe leading to the valve or union may be provided.

Generally speaking, the main support would be adapted to be fixed directly to a wall and a skeleton bracket would serve our purpose well.

struction illustrated by Figs. 1 to 4.

We provide a suitably designed wall bracket adapted to be bolted to a wall or support, as for instance a bracket such as that marked *a*. This has combined therewith a water supply pipe with known controlling valve, as it might be the pipe *b* which fits a concavity *a*<sup>1</sup> in the wall bracket.

10 The upstanding end of the pipe forms a hollow pillar or upright *b*<sup>1</sup> and this can pass through the bored end of the wall bracket *a*. Said upstanding hollow pillar or upright *b*<sup>1</sup> has lateral holes *b*<sup>2</sup> bored therein and the top is closed by a screwed-in disc *b*<sup>3</sup>. Fitting around the hollow pillar or upright *b*<sup>1</sup> is a machined boss *c* and this is packed top and bottom by glands *c*<sup>1</sup> and packing *c*<sup>2</sup>, and locking rings *c*<sup>3</sup> are provided. A screwed-on cap *c*<sup>4</sup> prevents the machined boss *c* lifting and gives a finish to the top of the pillar or upright *b*<sup>1</sup>. Obviously such machined boss *c* can swivel upon the pillar or upright *b*<sup>1</sup>, and with such machined boss are combined the tubular members *c*<sup>5</sup>, *d*<sup>5</sup>, the complete device forming a "U" shaped swivelling support.

At the outer extremity of the tubular member *c*<sup>5</sup> one half of a pedestal *c*<sup>6</sup> is fixed, the removable half *c*<sup>7</sup> clamping a blank trunnion *c*<sup>8</sup>.

The other tubular member *d*<sup>5</sup> has a fixed pedestal half *d*<sup>6</sup> and a removable half *d*<sup>7</sup> between which halves is clamped the combined spigot and trunnion-like structure *e* which is shown as a tube closed at each end, with inlet hole *e*<sup>1</sup> and outlet holes *e*<sup>2</sup>. The wheel-like reel, consists of peripheral tubes *g* and radial tubular spokes *g*<sup>1</sup> the outer ends being socketted in "T" shaped or like fittings *g*<sup>2</sup> whilst the inner ends are socketted in bored cylindrical bosses *g*<sup>4</sup>, *g*<sup>5</sup>. The cylindrical boss *g*<sup>4</sup> is mounted on and turns on the solid trunnion *c*<sup>8</sup> at the blank end. The bored cylindrical boss *g*<sup>5</sup> fits upon and turns on the cylindrical spigot and trunnion-like structure *e*, and, into it, is fitted the hollow water conducting spoke *g*<sup>1x</sup>, water finding its way along *d*<sup>5</sup> into *e* through holes *e*<sup>2</sup> and hole *g*<sup>x</sup> to the hollow conducting spoke *g*<sup>1x</sup> and so to the nozzle or union *g*<sup>6</sup>. The bored cylindrical boss *g*<sup>5</sup> is packed by a gland *g*<sup>7</sup>, packing *g*<sup>8</sup>, and locking ring *g*<sup>9</sup>.

A sheet metal or other strong drum *f* is fixed to lugs *f*<sup>1</sup> applied to the tubular spokes *g*<sup>1</sup> etc., and the hose is intended to be coiled on such drum, or withdrawn therefrom, and the inner end of the hose can be passed through a metal ring *f*<sup>2</sup> fixed to the drum *f* before the end of the hose is attached to the nozzle or union *g*<sup>6</sup>.

65 The construction illustrated by Figs. 5

to 8 is very similar to that already described in detail. In this slightly modified construction, a base or support *a*<sup>2</sup> is shown well adapted to be fixed to a fire engine or movable support or carrying means and through such base or support the valve controlled hollow pillar or upright *b*<sup>1x</sup> extends. The machined boss *c*<sup>x</sup> is closed at the top and it can rest on a ball or roller bearing at *c*<sup>10</sup> said machined boss being packed around the pillar or upright *b*<sup>1x</sup> by gland *c*<sup>1</sup>, packing *c*<sup>2</sup> and screwed ring *c*<sup>3</sup>.

The tubular members *c*<sup>5</sup>, *d*<sup>5</sup> along with the machined boss *c*<sup>x</sup> constitute the "U" shaped swivelling support, and *c*<sup>5</sup> supports the pedestal halves *c*<sup>6</sup>, *c*<sup>7</sup>, for the blank end trunnion *c*<sup>8</sup>, whilst *d*<sup>5</sup> supports the pedestal halves *d*<sup>6</sup>, *d*<sup>7</sup> for the fixed combined spigot and trunnion-like structure *e*. The cylindrical bosses *g*<sup>4</sup>, *g*<sup>5</sup> of the tubular wheel-like reel in this case revolve upon the trunnion *c*<sup>8</sup> at the blank end and upon the combined spigot and trunnion-like device *e* at the non-blank end, and the water passing through the holes *e*<sup>2</sup> flows along the hollow spoke *g*<sup>1x</sup> to the nozzle or union element *g*<sup>6</sup> where the inner end of the hose coiled upon the drum *f* is attached.

The support brackets, or bases employed by us, may themselves be pivoted upon another bracket, to allow the support bracket or base to swivel for turning said support bracket or base and the sustained reel, etc., into a position to lie very closely to a wall or to enter a housing, the use of such an additional bracket for such purpose being known.

The improved reels are well adapted for receiving hose for watering or spraying gardens and such like.

We are aware of hose reels having movable U shaped supports carried upon hollow uprights suitably packed, the U shaped supports with hollow and blank arm, and having tubular reel structures, bearings for the reel, a reel drum and hollow arm to which the hose wound on the reel is connected. We are also aware of hose reels with wall bracket and water passage therethrough, and with a reel carrier rotatably accommodating a hose, said reel carrier being adapted to swivel on the bracket and formed integrally with a water passage extending from the swivel joint to the axis of rotation, the reel axle was made hollow to constitute a water duct from which the water was supplied to the hose through a hollow arm projecting laterally from said axle. The reel carrier was U shaped with one half hollow to provide a water supply duct from the swivel joint to the reel axis, and our improvements are concerned with the

complete combination structures herein described and shown.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A reel for fire hose and such like, having in combination, a pillar or upright with water passage ways, a machined boss fitting the same, a packing gland or glands, arms extending from such machined boss, a pedestal on one arm and a blank trunnion, a tubular water conducting arm and a pedestal thereon clamping a combined spigot and trunnion-like device and producing a non-blank end, apertures in the combined spigot and trunnion-like end, and a reel structure with peripheral tubes and tubular spokes and cylindrical bosses forming part of the

reel structure, and a hollow spoke in the reel structure to conduct water from the combined spigot and trunnion-like structure to a nozzle or union device to which the hose is to be attached, and a drum spacing the tubular wheel-like elements of the reel contrivance itself, all as herein described.

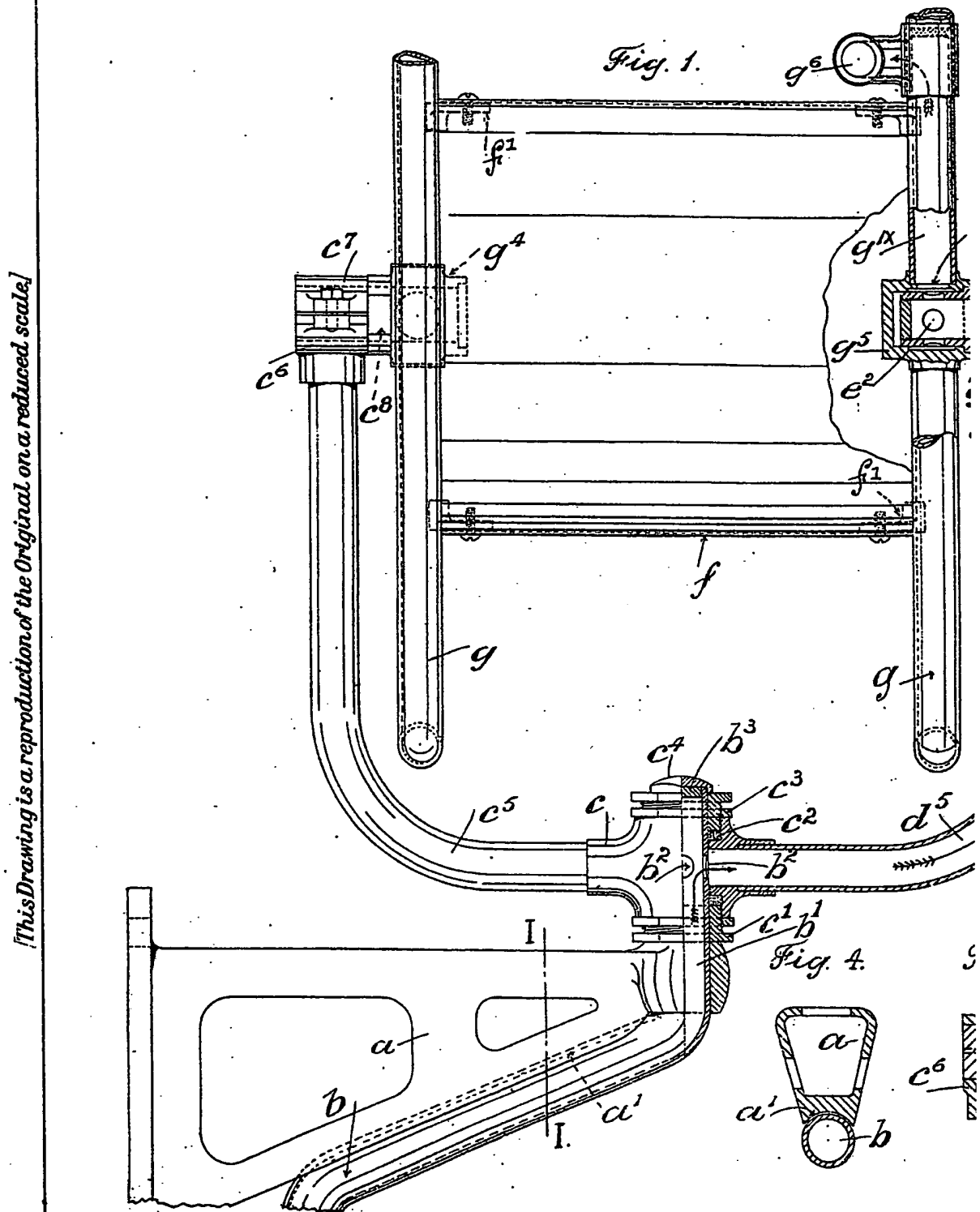
2. A reel for fire hose and such like and constructed substantially as described and shown with reference to Figs. 1 to 4 of the accompanying drawings.

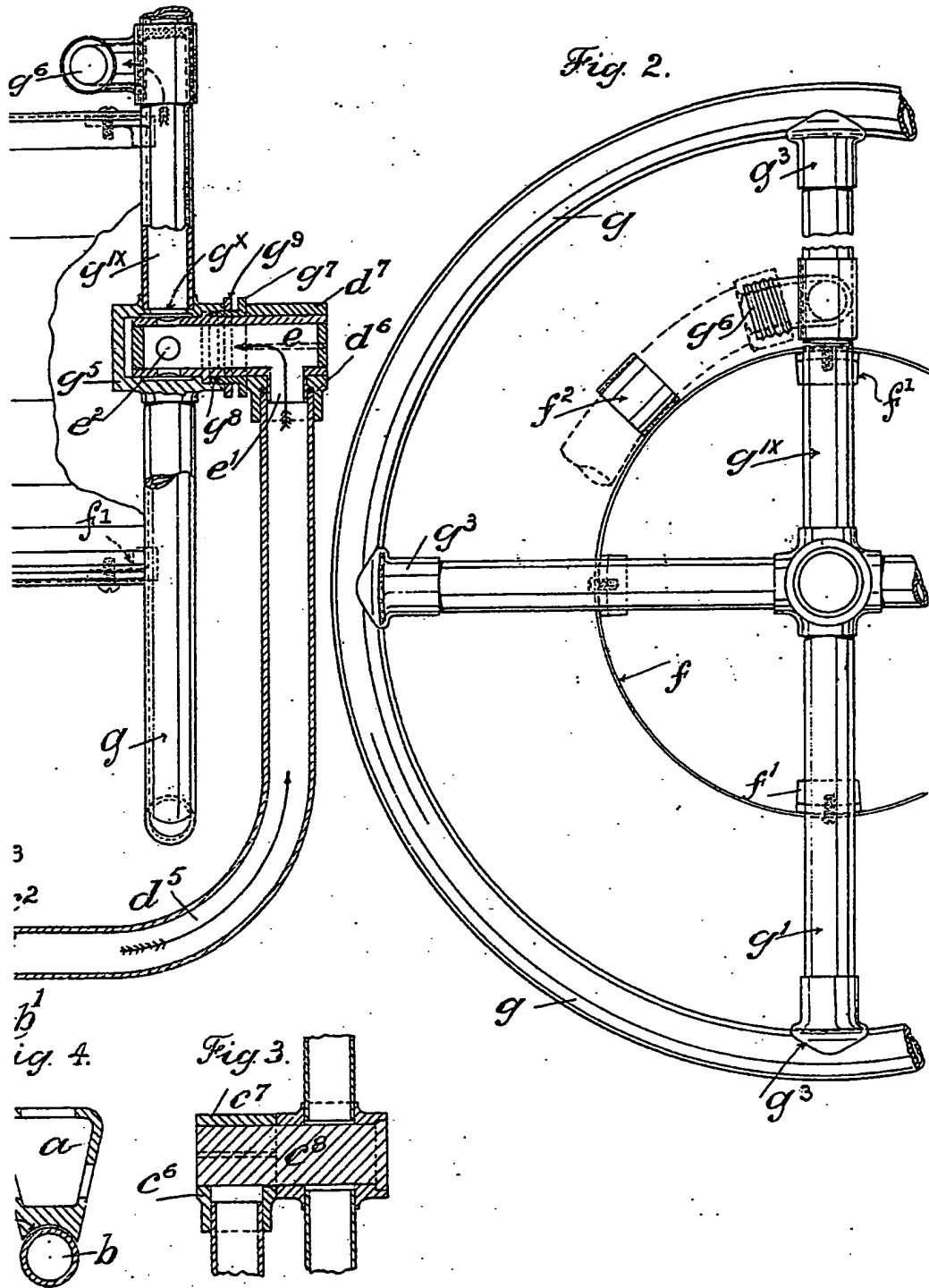
3. A reel for fire hose and such like and constructed substantially as described and shown with reference to Figs. 5 to 8 of the accompanying drawings.

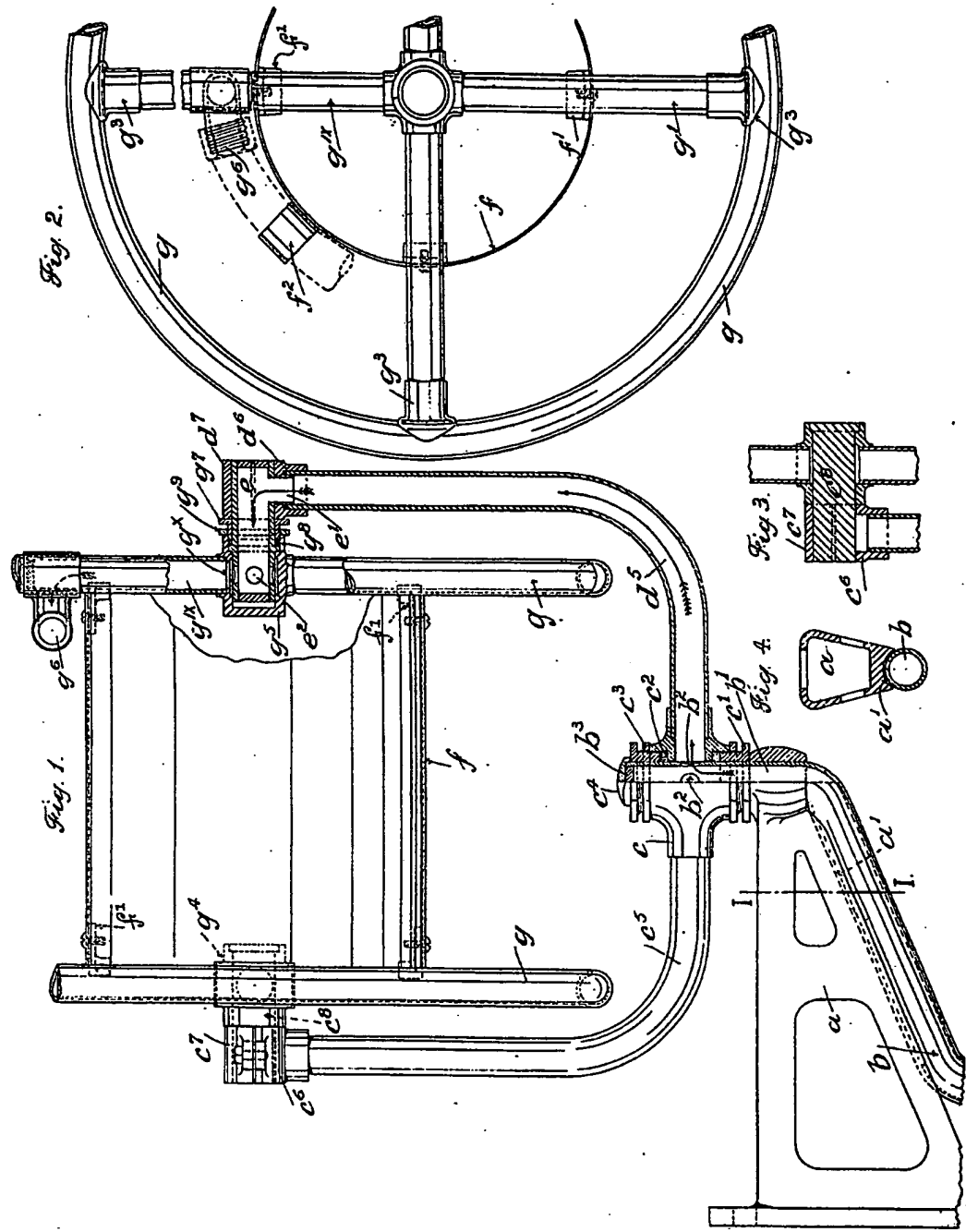
Dated the 31st day of August, 1932.

For the Applicants,

E. K. DUTTON & Co.,  
Chartered Patent Agents,  
5, John Dalton Street, Manchester.







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[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 5.

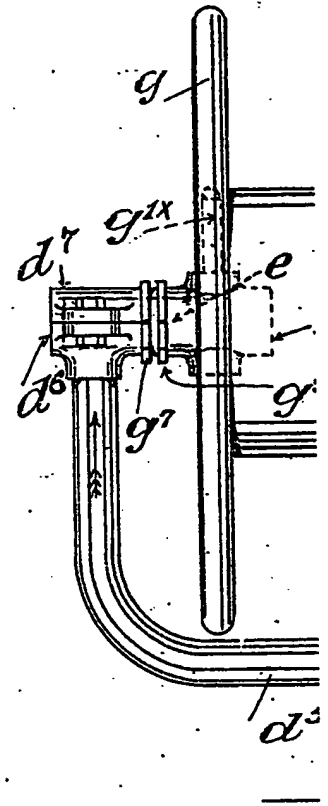
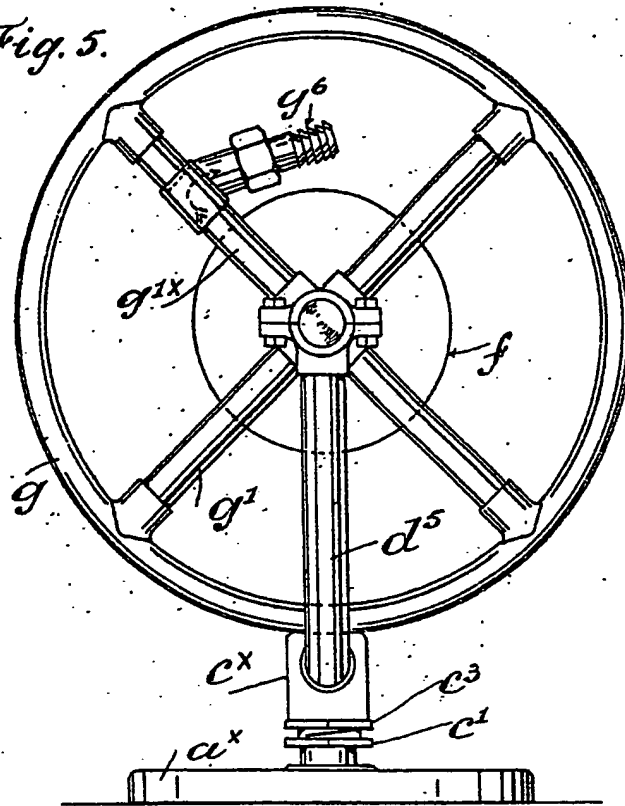


Fig. 7.

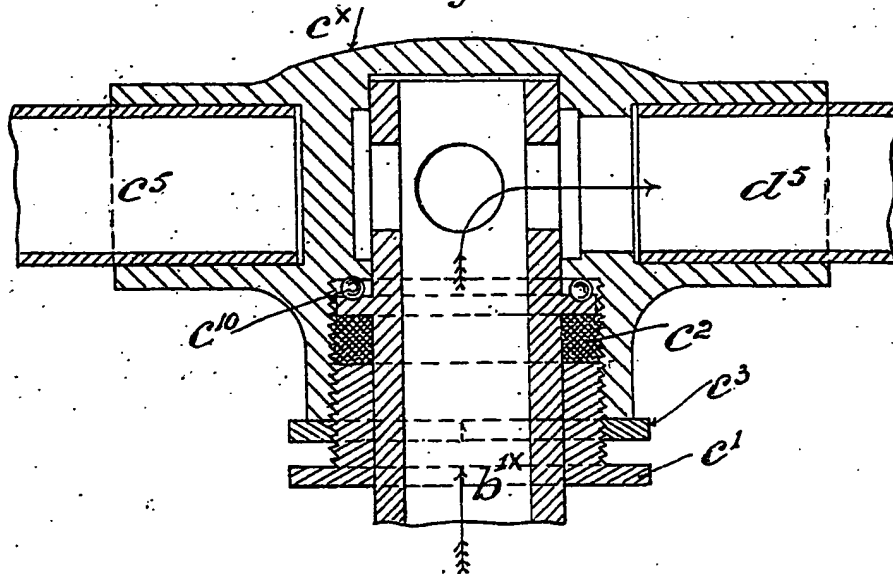




Fig. 6.

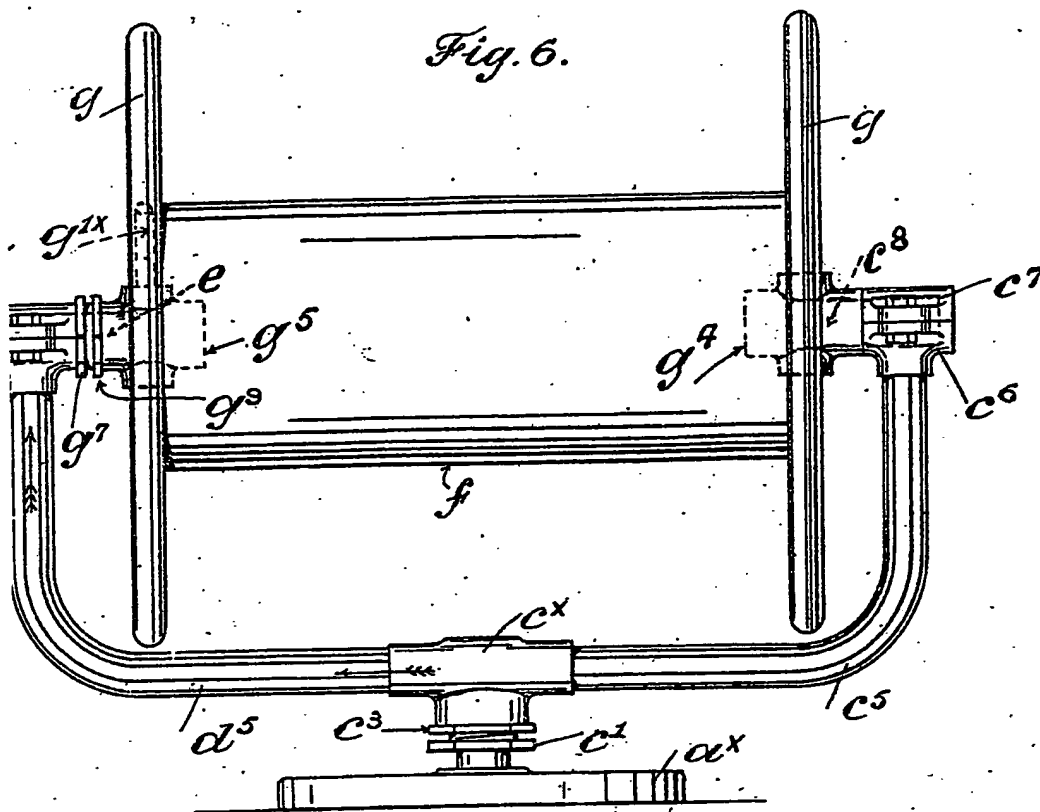
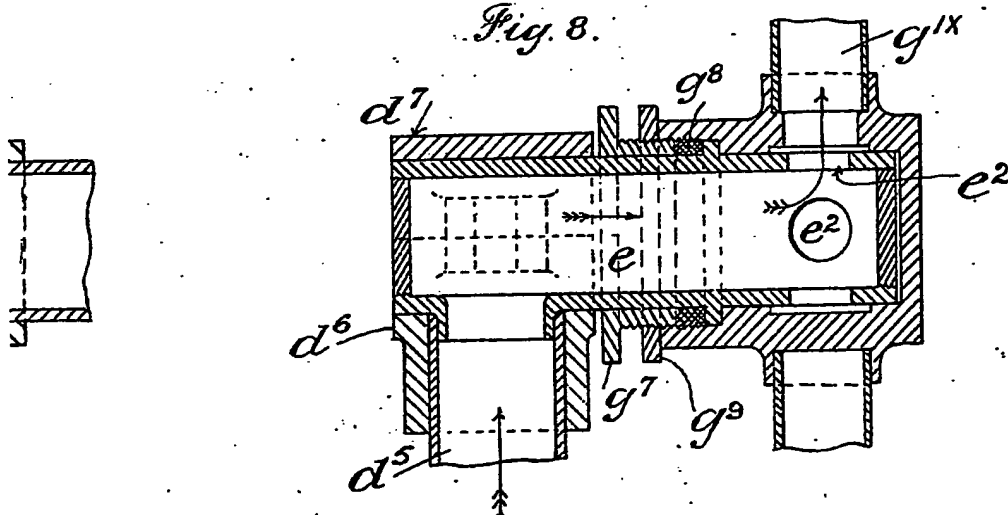


Fig. 8.



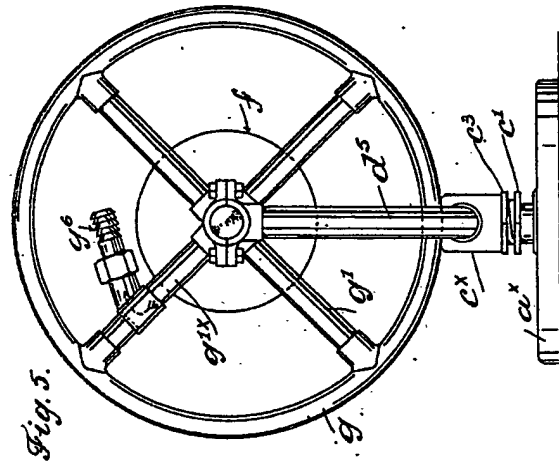


Fig. 5.

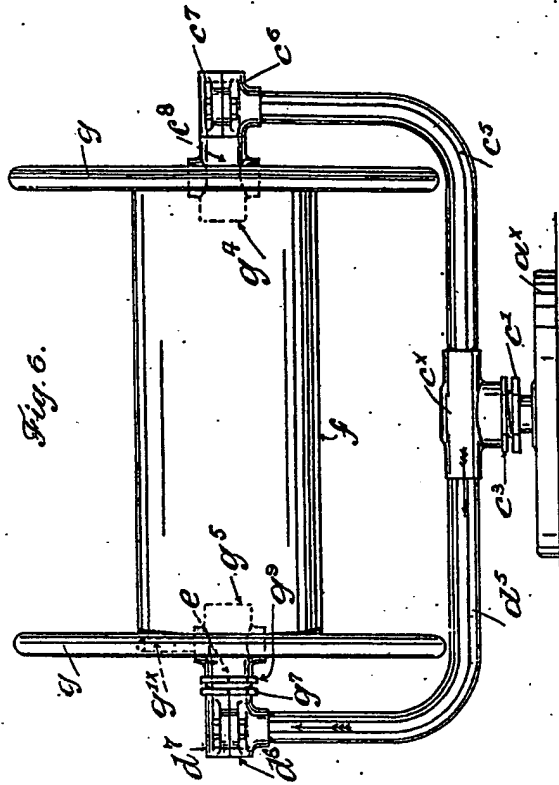


Fig. 6.

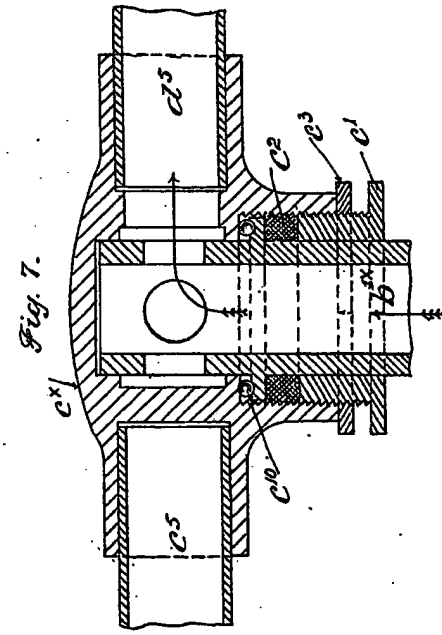


Fig. 7.

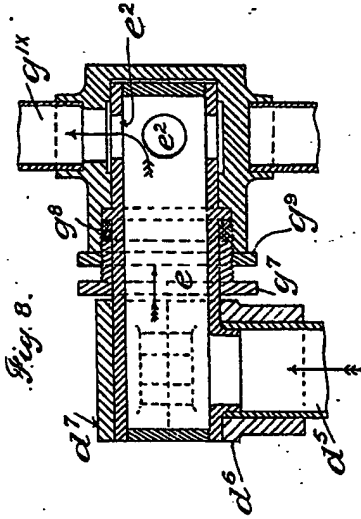


Fig. 8.

[This Drawing is a reproduction of the Original on a reduced scale.]